



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,822	12/20/2006	John B. Kuppenheimer	20030022	3954
22590	7590	04/24/2008		
BAE SYSTEMS PO BOX 868 NASHUA, NH 03061-0868			EXAMINER SUGARMAN, SCOTT J	
			ART UNIT 2873	PAPER NUMBER
			MAIL DATE 04/24/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/553,822

**Applicant(s)**

KUPPENHEIMER ET AL.

**Examiner**

Scott J. Sugarman

**Art Unit**

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3-11 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4 and 7-11 is/are rejected.
- 7) ☒ Claim(s) 3, 5, 6 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Murakami et al (US 5,184,245). Murakami et al teaches a singlet (see Fig. 9) for reshaping the output of a laser having a monolithic lens element having two spaced-apart surfaces radiused in the same direction and having the same length radius of curvature (see col. 5, lines 45-47).

Claims 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Morris et al (US 6,075,650). Morris et al teaches a singlet telescope (16) used to reshape the output of a laser with two surfaces (20, 21).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 7, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ngoi et al (US 6,195,208) or Snyder (US 5,181,224) in view of Takahashi et al (US 6,819,491). Ngoi et al teaches a singlet (see Fig. 5) for reshaping the output of a laser having a monolithic lens element having two spaced-apart surfaces radiused in the same direction (see col. 1, lines 8-14, 60-63; Fig. 5). Snyder teaches a singlet (see Fig. 3B) for reshaping the output of a laser having a monolithic lens element having two spaced-apart surfaces radiused in the same direction (col. 4, lines 2-6). Although the ray trace of the lens in Fig. 5 of Ngoi et al and the lens prescription of L in Fig. 3B of Snyder would indicate that the radius of curvature of both surfaces of their respective lenses are similar, they are not the same. As shown by the beam reshaping structure (21) of Takahashi et al, the radius of curvature (radiused in the same direction) can be the same for each surface  $r_1$  and  $r_2$ ). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide both surfaces of Ngoi et al or Snyder with the same length radius of curvature, since as shown by Takahashi et al they can be the same and would provide predictable results. The singlet can be formed of Si as taught in Ngoi et al (col. 2, lines 34-35). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide an anti-reflection coating on either or both surfaces, since antireflection coatings are commonly used on most optical elements from spectacle lenses to laser shaping optics and would have provided predictable results. Magnification such as 2X is considered to be a function of the selected curvature of the surfaces.

***Allowable Subject Matter***

Claims 3, 5, 6 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or suggest the numerical relationship recited by claims 3 and 14, the concave surfaces that generate focused retro-reflections (claim 5) or the recited third-order aberrations of claim 6.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott J. Sugarman whose telephone number is (571)272-2340.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L. Mack can be reached on (571)272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2873

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Scott J. Sugarman/  
Primary Examiner, Art Unit 2873

sjs  
April 23, 2008